AMENDMENTS TO THE CLAIMS

1.(Previously Presented) A method for producing a compound semiconductor single crystal by a liquid encapsulated Czochralski method, comprising:

containing a semiconductor raw material and an encapsulating material in a raw material melt-containing portion comprising a first crucible and a second crucible, the first crucible having a bottom and a cylindrical shape, and the second crucible being disposed in an inside of the first crucible and having a bottom portion thereof provided with a communication hole communicating with the first crucible;

melting the raw material by heating the raw material melt-containing portion; and

growing a crystal by making a seed crystal be in contact with a surface of the raw material melt in a state covered with the encapsulating material and by pulling up the seed crystal,

wherein a crucible having a tapered structure in which an inner diameter of a bottom portion of the crucible is smaller than an inner diameter of a top portion of the crucible and in which a side face thereof tilted with respect to a vertical direction within a range of 0.2° to ~~10°,~~ **<u>10°C,</u>** and a diameter of a communication hole may be not more than 1/5 of the inner diameter of the crucible may be used as the second crucible, and

when the body of a crystal is grown, a heater temperature is controlled so that on an interface between a growing crystal and the raw material melt, the crystallization is advanced

until reaching an inner wall of the second crucible, and the crystallization is done in such a way that a diameter of the body of the growing crystal is consistent with an inner diameter of the second crucible on the interface and the diameter of the body of the growing crystal is confined by the inner wall of the second crucible, while the crystal is grown by maintaining a surface of the growing crystal in a state covered with the encapsulating material until termination of crystal growth.

2. (Previously Presented) The method for producing a compound semiconductor single crystal as claimed in claim 1, wherein an amount of the encapsulating material to be added is set to an amount such that the encapsulating material is capable of filling a space generated between the growing crystal and the second crucible in accordance with the crystal growth and covering an entire surface of the growing crystal.

3.(Canceled)

4.(Canceled)

5.(Currently Amended) The method for producing a compound semiconductor single crystal as claimed in claim 1 ~~or claim 2~~, wherein the crystal growth is performed in a state of the second crucible being dipped in the raw material melt contained in the first crucible to a depth within a range of 10 mm to 40 mm.

6. (Canceled)

7. (Currently Amended) The method for producing a compound semiconductor single crystal as claimed in ~~any one of claims 1, 2, and 5~~ claim 1, wherein a temperature gradient in the raw material melt is set to at least not more than 20°C/cm.

8. (New) The method for producing a compound semiconductor single crystal as claimed in claim 2, wherein the crystal growth is performed in a state of the second crucible being dipped in the raw material melt contained in the first crucible to a depth within a range of 10 mm to 40 mm.

9. (New) The method for producing a compound semiconductor single crystal as claimed in claim 1, wherein a temperature gradient in the raw material melt is set to at least not more than 20°C/cm.

10. (New) The method for producing a compound semiconductor single crystal as claimed in claim 2, wherein a temperature gradient in the raw material melt is set to at least not more than 20°C/cm.

11. (New) The method for producing a compound semiconductor single crystal as claimed in claim 3, wherein a temperature gradient in the raw material melt is set to at least

not more than 20°C/cm.

12. (New) The method for producing a compound semiconductor single crystal as claimed in claim 4, wherein a temperature gradient in the raw material melt is set to at least not more than 20°C/cm.